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AO AP AR AS	1 1	Beecham, J. 14(3&4):379 Brown, P.O. precursor,	M., et al., "Glo-402 (1985) , et al., "Retroand a role for t	bal And Target Analysis of Compositions integration: Structure of the viral IN protein," <i>Proc. Nat. Continuous</i> , on-line DNA sequence, <i>Proc. Natl. Acad. Sci. USA 85</i> :	the 1. Acc	initial ad. Sci.	covalent pr USA 86:2525 godeoxynucle 88)	oduct and its i-2529 (1989)
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gn	AS	2	Cardullo, R resonance e	.A., <i>et al</i> ., "Det nergy transfer,"	ection of nucleic acid hybri Proc. Natl. Acad. Sci. USA 85	dization 5:8790-87	by non 194 (198	radioactive 88)	fluorescence
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22	AR	<u>3</u>	Chen P F	and Scott, C.H.	, "Special Review: Atlas Lett. 18(A4):393-421 (19	of Fluores		ectra and Li	fetimes of Dyes
12	AS	3	Chollett, /	A., and Kawashima and uses as hybri	a, E.H., "Biotin-labeled s dization probes," <i>Nucleic</i>	synthetic o	ligodeox; . <i>13(5)</i> :1	yribonucleot 529-1541 (19	ides: chemical 985)
12	АТ	3	Chow et al	., "Reversal of I ciency Virus," So	Integration and DNA Splic cience 255:723-726 (1992)	ing Mediate	d by Into	egrase of Hu	man
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1m	AS	<u>4</u>	Clavel, F., 1459 (1989)		c ecombination of Human Immun	odefici	ency Vir	us," J. Vird	o1. 63(3):1455-
M	AT	4	Clegg, R.M. Four-Way DN	, et al., "Fluor IA Junction," Bio	escence Resonance Energy Tran chem. 31:4846-4856 (1992)	sfer An	alysis c	of the Struc	ture of the
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12	AS	<u>5</u>	Conrad, R.H Dimethylami (1968)	., and Brand, L., nonapthalene-5-su	, "Intramolecul ulfonamide in a	ar Transfer of Ex a Series of Model	citation f Compounds,	rom Tryptopha " <i>Biochemistr</i>	n to 1- v 7(2):777-787
12	АТ	<u>5</u>	Cooper, J.P Branched DN	., and Hagerman, A Molecules," <i>Bio</i>	P.J., "Analys ochemistry 29:9	is of Fluorescence 261-9268 (1990)	·Energy Tr	ansfer in Dup	lex and
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11	AT	2	Glasner, et	: al., "Fast quan echnology," Biol	titative assay of sequence-spec . <i>Chem. 373</i> :1223-1225 (December	ific 1992	endonucl	ease activi	ty based on DNA
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1ª	AR	11	Jablonski, use as hybr	E., et ai	7., "Prep n probes,	maration of oligonucleotide " Nucleic Acids Res. 14(15,	-alkaline :6115-612	phospha 8 (1986)	tase conjuga	ates and their
12	AS	11	Jeltsch, A. of the DNA	, et al., Cleavage	, "A Fast Activity	and Accurate Enzyme-Linke of Restriction Endonuclea	d Immunos ses," Ana	orbent A 1. Bioch	ssay for the	e Determination 240 (1993)
12	AT	11	Katz, R.A., of retrovir	et al., al integ	"Require rase," <i>Pr</i>	ement for a conserved serin roc. Natl. Acad. Sci. USA 89	e in both 9:6741-674	process 5 (1992)	ing and joi	ning activities
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12	AR	<u>12</u> K	atzman, M. inear Vira	, et al., "The Av l DNA at the In V	vian Retroviral Integration vivo Sites of Integration,"	Protein C J. Virol.	(leaves 63(12):	the Terminal 5319-5327 (Sequences of 1989)
12	AS	12 K	nutson, J. pproach,"	R., et al., "Simu Chem. Phy. Lett.	ultaneous Analysis of Multip 102(6):501-507 (1983)	le Fluore	escence I	Decay Curves	s: A Global
N	AT	12 R	ee, S.P., estriction	et al., "A Fluoro Endonuclease," /	ometric Assay for DNA Cleava Anal. Biochem. 220:377-383 (ge Reacti 1994)	ons Cha	racterized w	with BamHI
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02	AS	13	Matayoshi, Resonance E	E.D., et al., "N nergy Transfer,	lovel Fluorogenic Subst · Science 247:954-958 (rates for Assa 1990)	aying Ret	roviral Pro	teases by
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n	AS	<u>14</u>	Panganiban, integration (1984)	A.T., et al., ": : Identification	The retrovirus <i>pol</i> ; of a retrovirus <i>in</i>	gene encodes a t locus," <i>Prod</i>	a produc C. Natl.	ct req . <i>Acad</i>	uired for D . Sci. USA	DNA 81 : 7885 - 7889
12	АТ	14	Ruth, J.L., (1985)	et al., "Linker	Arm Nucleotide Ana	logs Useful ir	n Oligo	nucleo	tide Synthe	esis," <i>DNA 4</i> :93
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12	AT	<u>15</u>	Schwartzber Moloney Mur 37:1043-105	ine Leukemia Vir	Construction and Analysis of us: A New Viral Function Requ	Deletion uired fo	n Mutati r Produc	ons in the parties on the parties of the infect	001 Gene of ion," Cell
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12	AR	<u>16</u>	Shanman D	A., and Fyfe, J., coli possesses s	A., "Human immunodeficiency vir elective DNA cleaving activity,	us int	egratio	n protein e Acad. Sci.	xpressed in USA 87:5119-
12	AS	<u>16</u>	Smith, J.S. Virus Type	, et al., "Analys 1," J. Virol. 64:	sis of Long Terminal Repeat Cir 6286-6290 (1990)	cle Ju	nctions	of Human I	nmunodeficiency
1	АТ	<u>16</u>	Spencer, R. Measurement	D., and Weber, G s of Fluorescenc	., "Influence of Brownian Rotat e Lifetime," <i>J. Chem Phys. 52(4</i>	ions a	and Ener -1663 ('	gy Transfer 1970)	upon the
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12	AS	17	Stryer, L., 846 (1978)	"Fluorescence en	nergy transfer as a spectroscop	ic rul	ler," <i>An</i>	n. Rev. Bi	ochem. 47: 819 -
112	AR	17		and Haugland, R.	.P., "Energy transfer: a spectr			Proc. N	atl. Acad. Sci.
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12	AT	<u>18</u>	Terry, R., 6 Produced in	et al., "Properti Escherichia coli	es of A	wian Sarcoma- irol. 62(7):23	Leukosis Vii 58-2365 (19	rus p; 88)	o32-Rela	ated pol-End	onucleases
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112	\ ^K	<u>19</u>	American So	ociety for Microb	iology, Washington, D.C.,	, pp. 53-108) (1989)		
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			Waters, T.F	R., and Connolly,	B.A., "Continuous Specti ic Oligodeoxynucleotides	rophotometr	ic Assay	for Restric	tion Effect." <i>Anal</i> .
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	5,525,711	06/11/96	Hawkins et	al.						
n	5,763,181	06/09/98	Han et al.		7 - 5					
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